



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

Mr. Charles Martin
Virginia Department of Environmental Quality
629 Main Street
Richmond, VA 23219

Dear Mr. Martin:

On December 6, 2004, Virginia Department of Environmental Quality (DEQ) notified EPA of its attention to amend the total loads and waste load allocations for the Abrams and Opequon Creek TMDLs. These TMDLs were approved by EPA in February 2004. After that approval, DEQ identified errors and omissions pertaining to facilities under general permits within the watershed. One of the individual National Pollutant Discharge Elimination System (NPDES) permit has also requested an expansion in the design flow.

The bacteria loading within the Upper Opequon Creek will increase substantially as a result of these changes. The increased bacteria loading from these facilities is not expected to impact water quality conditions since they are required to discharge at the water quality criteria. The benthic TMDLs for Abrams and Opequon Creek identified sediment as the stressor of concern. There will be an increase in sediment discharge as a result of this modification as well. The total suspended solids from Perkins Mill Sewage Treatment Plant, the individual NPDES permit holder is being reduced from 30 milligrams per liter to 10 milligrams per liter. This reduction is not enough to compensate for the increased flow from the facility and a small increase in sediment loading is expected. The 0.1 percent and 0.3 percent sediment loading increases to Abrams and Opequon Creeks respectively is not expected to impact water quality.

The changes being made to the Perkins Mill Sewage Treatment Plant permit and TMDL were public noticed in the Virginia Register. There were no comments received the comment period. EPA does not believe the changes made to these TMDLs will have any deleterious results on water quality and approves of DEQ's actions. Please contact Mr. Peter Gold at 215-814-5236 or gold.peter@epa.gov if you have any further questions or comments.

Sincerely,

Mr. Thomas Henry, Manager
TMDL Program

December 6, 2004

Mr. Thomas M. Henry
US EPA Region 3 - 3WP12
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Dear Mr. Henry:

This letter is to request approval of modifications to the waste load allocations (WLAs) and total maximum daily loads (TMDLs) for bacteria and sediment developed for Abrams Creek and Opequon Creek, Frederick County, Virginia. In February 2004, EPA Region III approved the bacteria and sediment TMDLs for Abrams Creek and Upper and Lower Opequon Creek. The Virginia Department of Environmental Quality (VA DEQ) has since identified a number of errors and omissions pertaining to facilities permitted under various general permits in the watersheds. For example, some additional industrial and construction stormwater permits were not included in the original TMDLs. There were also some omissions and errors in the original inventory of single family homes.

In addition, as part of the current reissuance of the VPDES permit, the Parkins Mill Sewage Treatment Plant requested an expansion of the design flow from 2.0 mgd to a maximum flow tier of 5 mgd for June-November and 7.6 mgd for December-May. DEQ proposes to modify the facility's wasteload allocation to accommodate this expansion at a permitted *E. coli* concentration of 126 cfu/100ml and total suspended solids (TSS) concentration of 10 mg/L

Tables showing the corrected list of permitted facilities in the watershed, together with their associated waste load allocations (WLAs), have been developed and are attached to this letter. VA DEQ is proposing to replace the existing permit tables 6.8 and 6.13 in the bacteria TMDL report with the attached tables 6.8 and 6.13. VA DEQ is proposing to replace the existing permit tables 7.3 and 7.10 in the sediment TMDL report with the attached tables 7.3 and 7.10.

Updating the bacteria TMDLs in accordance with the attached tables has no impact on water quality for the following reasons:

The bacteria WLA for the Upper Opequon Creek increases by a factor of approximately 2.5. Appendix J of the bacteria TMDL report includes a future scenario with a hypothetical total WLA of 10 times the current WLA. The simulation assumed an increased flow with bacteria levels remaining at water quality criteria concentrations. This scenario illustrates that a 10-fold increase in point source discharge will not cause additional violations of the water quality criteria for bacteria. The WLA changes for Upper Opequon Creek are well within the simulated future WLA and therefore have no impact on the original allocations. VA DEQ therefore proposes to replace tables 1.6 and 1.9 in the bacteria TMDL report with the following tables:

Table 1.6. Average annual *E. coli* loadings (cfu/year) at the watershed outlet used for the Upper Opequon bacteria TMDL.

| Pollutant | SWLA | SLA | MOS | TMDL |
|------------------|-----------------------|-----------------------|------------|-----------------------|
| <i>E. coli</i> | 1.13×10^{13} | 3.64×10^{13} | NA | 4.77×10^{13} |

Updating the sediment TMDLs in accordance with the attached tables has no impact on water quality for the following reasons:

The revisions for Abrams Creek result in an increase of 0.1% of the overall TMDL. The revisions for Lower Opequon Creek result in an increase of 0.3% of the overall TMDL. These changes are insignificant. VA DEQ therefore proposes to replace tables 1.4 and 1.7 in the sediment TMDL report with the following tables:

Table 1.4 Abrams Creek TMDL Sediment Goal (t/yr)

| TMDL | WLA | LA | MOS |
|-------------|------------|-----------|------------|
| 6,335 | 478 | 5,224 | 633 |

Table 1.7 Lower Opequon Creek TMDL Sediment Goal (t/yr)

| TMDL | WLA | LA | MOS |
|-------------|------------|-----------|------------|
| 53,908 | 1,039 | 47,493 | 5,376 |

These changes to the TMDLs will be public noticed in the VA Register on 12/13/2004, with a public comment period ending on 01/12/2005. Based on the above, VA DEQ hereby requests EPA approval of the proposed modifications. If you or your staff have questions on this modification of the Abrams and Opequon Creek TMDLs, please contact me or Mr. Charles Martin at (804) 698-4462.

Sincerely,

Jutta Schneider
TMDL Modeling Coordinator
Watershed Programs Office

Enclosure

cc: Mark Smith, EPA
Charles Martin, VADEQ
Jon Van Soestbergen, VADEQ
Robert Brent, VADEQ-VRO
File

Attachment – Revised Allocation Tables for the Sediment and Bacteria TMDL Report for Abrams Creek and Opequon Creek

Table 6.8. Point Sources Discharging Bacteria in the Upper Opequon Watershed.

| Permit Number | Facility | Flow (MGD) | Permitted FC Conc. (cfu/100ml) | Permitted FC Load (cfu/yr) | Allocated FC Load (cfu/yr) | Allocated E. coli Load (WLA) (cfu/yr) |
|-----------------------------------|---------------------------------|------------|--------------------------------|----------------------------|----------------------------|---------------------------------------|
| VA0075191 | Parkins Mill STP ^a | 6.3 | 200 | 1.68E+13 | 1.68E+13 | 1.10E+13 |
| VA0088722 | Stonebrook Swim and Raquet Club | 0.004 | 200 | 1.11E+10 | 1.11E+10 | 6.96E+09 |
| VA0088471 | Frederick Co. Landfill | 0.15 | 200 | 4.14E+11 | 4.14E+11 | 2.61E+11 |
| 22 Domestic waste general permits | | 0.022 | 200 | 6.08E+10 | 6.08E+10 | 3.83E+10 |
| | | | | | Total | 1.13E+13 |

^aParkins Mill STP is permitted to discharge at 5.0 MGD for June-Nov. and 7.6 MGD for Dec.-May.

Note:

The Frederick County landfill was misrepresented in the original permit table with a flow of 15,000 gpd instead of 150,000 gpd.

Table 6.13. Point Sources Discharging Bacteria in the Lower Opequon Watershed.

| Permit Number | Facility | Flow (MGD) | Permitted FC Conc. (cfu/100ml) | Permitted FC Load (cfu/yr) | Allocated FC Load (cfu/yr) | Allocated E. coli Load (cfu/yr) |
|-----------------------------------|--|-------------------|--------------------------------|----------------------------|----------------------------|---------------------------------|
| VA0065552 | Opequon Region AWT | 12.2 ^a | 200 | 3.37E+13 | 3.37E+13 | 2.12E+13 |
| VA0090808 | APAC-Virginia Inc. | 0.005 | 200 | 1.38E+10 | 1.38E+10 | 8.70E+09 |
| VA0029653 | Missionary Servants of the Most Holy Trinity | 0.007 | 200 | 1.93E+10 | 1.93E+10 | 1.22E+10 |
| 11 Domestic waste general permits | | 0.011 | 200 | 3.04E+10 | 3.04E+10 | 1.91E+10 |
| | | | | | Total | 2.13E+13 |

^aLocated above the Abrams and Opequon confluence, but discharges into the Lower Opequon. Design flow is 8.4 MGD for June-November and 16 MGD for December-May, the average is 12.2 MGD.

Note:

The I-81 Rest Area is now offline and no longer discharging. The closure plan was completed on 3/22/04. The number of single family homes was reduced because permit applications considered in the original permit table were not finalized.

Table 7.3. Abrams Creek TMDL Sediment WLA Allocations (t/yr)

| Permit Number | Facility | Permitted Design Flow (MGD) | Permitted Monthly Avg. Conc. (mg/L TSS) | WLA |
|---|---------------------------------|-----------------------------|---|--------|
| 253 acres of Construction Stormwater General Permits ^a | | | | 30.83 |
| Industrial Stormwater General Permits ^b | | | | |
| VAR050810 | O'Sullivan Corp | | | 0.86 |
| Non-metallic Mineral Mining General Permits ^c | | | | |
| VAG840142 | Stuart M Perry Inc - Winchester | 0.099 | 30 | 4.10 |
| MS4 General Permits ^d | | | | |
| VAR040053 | City of Winchester | | | 442.70 |
| VAR040032 | VDOT - Winchester Urban Area | | | |
| | | | Total | 478.49 |

^aWLAs for Construction Stormwater General Permits were calculated as: Load = 253 acres x 30.11 cm maximum annual runoff depth x 100 mg/L TSS concentration x 0.000040473 units conversion factor.

^bWLAs for Industrial Stormwater General Permits were calculated as: Load = 38.29 in rainfall amount x (0.050 + 0.009 x percent impervious area) x drainage area x 60 mg/L TSS concentration x 0.0001135 units conversion factor.

^cWLAs for Non-metallic Mineral Mining General Permits were calculated as: Load = reported flow x permitted TSS concentration.

^dMS4 loads were assigned in aggregate based on the allocation reductions to the modeled loads from urban transitional and impervious areas within the watershed and inside City limits.

Note:

The National Fruit and Abex facilities discharge non-contact cooling water and are not considered a source of TSS. The SM Perry facility was moved from an individual to a general non-metallic mining permit effective 7/2/02 (general permit re-issued 7/1/04). The individual permit was terminated 10/3/02.

Table 7.10. Lower Opequon Creek Sediment WLA Allocations (t/yr)

| Permit Number | Facility | Permitted Avg Daily Load (kg/d) | Permitted Design Flow (MGD) | Permitted Monthly Avg Conc. (mg/L TSS) | WLA (t/yr) |
|---|--|---------------------------------|-----------------------------|--|------------|
| VA0029653 | Missionary Servants of the Most Holy Trinity | 0.8 | 0.007 | 30 | 0.29 |
| VA0065552 | Opequon Regional AWT | 1385.5 | 12.2 | 30 | 505.71 |
| VA0075191 | Parkins Mill STP ^a | | 6.3 | 10 | 87.04 |
| VA0088471 | Frederick Co. Landfill | 9.08 | 0.15 | 30 | 3.31 |
| VA0088722 | Stonebrook Swim Club | 0.45 | 0.004 | 30 | 0.16 |
| VA0089010 | Franciscan Center | | 0.000241 | 30 | 0.01 |
| VA0090808 | APAC Virginia WWTP | 0.6 | 0.005 | 30 | 0.22 |
| VA0087815 | Fay Spring WTP | | 0.031 | 30 | 1.28 |
| 33 Domestic Waste General Permits | | | 0.033 | 30 | 1.37 |
| 641 acres of Construction Stormwater General Permits ^b | | | | | 63.70 |
| Industrial Stormwater General Permits ^c | | | | | |
| VAR050810 | O'Sullivan Corporation | | | | 0.86 |
| VAR051329 | Stanley Doors | | | | 0.15 |
| VAR051342 | FedEx Freight East Inc | | | | 0.08 |
| VAR051409 | Frederick County Landfill | | | | 6.64 |
| VAR051335 | Trelleborg Engineered Products Inc - MPD | | | | 0.07 |
| VAR051336 | Trelleborg Engineered Products Inc-EPD | | | | 0.07 |
| VAR050950 | APAC Virginia/L. F. Franklin & Sons | | | | 0.14 |
| VAR050846 | Zuckerman Company Inc | | | | 0.47 |
| VAR050844 | Lear Corporation | | | | 0.41 |
| VAR050957 | North Stephenson Inc | | | | 0.90 |
| VAR050972 | Cives Steel Company | | | | 0.26 |
| VAR050789 | Winchester Pasta LLC | | | | 1.03 |
| VAR050819 | BFI Waste Systems of North America | | | | 0.07 |
| VAR050889 | Kraft Foods North America Inc | | | | 0.14 |
| VAR050816 | Crown Beverage Packaging USA Inc | | | | 0.41 |
| VAR050840 | Green Bay Packaging | | | | 0.26 |
| VAR050935 | Quarles Petroleum | | | | 0.01 |
| VAR050967 | Plumly Flooring | | | | 0.27 |
| VAR051560 | Rolling-Frito Lay | | | | 0.11 |
| Non-metallic Mineral Mining General Permits ^d | | | | | |
| VAG840024 | Global Stone Chemstone Corporation | | 2.16 | 30 | 89.52 |
| VAG840142 | Stuart M Perry Inc | | 0.099 | 30 | 4.10 |
| Redi-mix Concrete General Permits ^c | | | | | |
| VAG110028 | Shockey Precast Group | | | | 0.68 |
| Carwash General Permits | | | | | |
| VAG750046 | A&K Car Wash | | 0.005 | 60 | 0.41 |
| MS4 General Permits ^c | | | | | |
| VAR040053 | City of Winchester | | | | 269.20 |
| VAR040032 | VDOT-Winchester Urban Area | | | | |
| | | | | Total | 1039 |

^aParkins Mill STP is permitted to discharge at 5.0 MGD for June-Nov. and 7.6 MGD for Dec.-May.

^bWLAs for Construction Stormwater General Permits were calculated as: Load = 253 acres x 30.11 cm maximum annual runoff depth x 100 mg/L TSS concentration x 0.000040473 units conversion factor. For Lower Opequon, the load from 253 acres in Abrams x 0.55 (sediment delivery ratio adjustment) was added to the load from 389 acres in the Lower Opequon Remnant.

^cWLAs for Industrial Stormwater General Permits were calculated as: Load = 38.29 in rainfall amount x (0.050 + 0.009 x percent impervious area) x drainage area x 60 mg/L TSS concentration x 0.0001135 units conversion factor.

^dWLAs for Non-metallic Mineral Mining General Permits were calculated as: Load = reported flow x permitted TSS concentration.

^eMS4 loads were assigned in aggregate based on the allocation reductions to the modeled loads from urban transitional and impervious areas within the watershed and inside City limits.

Note:

The I-81 Rest Area is now offline and no longer discharging. The closure plan was completed on 3/22/04. The number of single family homes was reduced because permit applications considered in the original permit table were not finalized. A&K Car Wash was moved from an individual permit to a general car wash permit effective 7/2/01. The individual permit expired 7/1/01. The general permit was reissued 10/16/02.